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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/11/2003

David P. Huber

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07/29/2009

FRASER CLEMENS MARTIN & MILLER LLC
28366 KENSINGTON LANE
PERRYSBURG, OH 43551

EXAMINER

MACARTHUR, VICTOR L

ART UNIT

PAPER NUMBER

3679

NOTIFICATION DATE

DELIVERY MODE

07/29/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

miller@fraser-ip.com
sloan@fraser-ip.com
clemens@fraser-ip.com

Office Action Summary	Application No. 10/684,318	Applicant(s) HUBER ET AL.	
	Examiner VICTOR MACARTHUR	Art Unit 3679	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 7-17 and 18 is/are pending in the application.
- 4a) Of the above claim(s) 8-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7, 17 and 18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 September 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) ☒ Notice of References Cited (PTO-892) | 4) ☐ Interview Summary (PTO-413) |
| 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) ☐ Information Disclosure Statement(s) (PTO/SB/08) | 5) ☐ Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) ☐ Other: _____ |

DETAILED ACTION

Prosecution Reopened

This Office Action follows the decision on appeal mailed 6/24/2009 reversing the previous Office Action final rejection. Prosecution is hereby reopened in accordance with MPEP §1214.04 due to specific knowledge of the existence of particular references, which indicate non-patentability of the reversed claims. Director approval has been annotated on the last page of this Office action.

Election/Restrictions

Claims 8-16 remain withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 2/15/2005.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “slots on a corresponding shaft” (line 5 of claim 1) and “a corresponding body” (line 8 of claim 1) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. Note that contrary to the examiner’s assertion in the final rejection mailed 8/14/2006, the board decision has found both the corresponding shaft and corresponding body to be structurally limiting of the splined component. Accordingly, these elements must be shown in the drawings with reference characters described in the written description. Note that mandrel (26) is used in making the

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splined component and as such is neither the "slots on a corresponding shaft" nor the "corresponding body" recited in the claims.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Every element recited in the claims must be described in the written description with reference characters regarding the drawings; or the following features must be deleted from the claims: "slots on a corresponding shaft" (line 5 of claim 1), and "a corresponding body" (line 8 of claim 1).

Claim Objections

Claim 1 is objected to because of the following informalities:

- The phrases “slots on a corresponding shaft” (line 5 of claim 1) and “a corresponding body” (line 8 of claim 1) are not recited in the specification. Furthermore, it is unclear which drawing elements, if any, are represented by the above-mentioned phrases.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-4, 7, 17 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- It is unclear if "a corresponding body" (line 8 of claim 1) is meant to refer to the same element as "a corresponding shaft" (line 5 of claim 1) or to some additional element.
- The term “small” (line 6 of claim 1) is relative and thus unclear. Would raised portions that are identical in size to splines read on the claim provided they are small with respect to some other element? See prior art rejection under 35 U.S.C. 102(b) below over Mangas USPN 5716276.

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- It is unclear which, if any, of the previously recited “main body” (line 2 of claim 1) or “corresponding body” (line 8 of claim 1), the phrase “and body” (last line of claim 1) is meant to refer.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Satou USPN 6405835 (figure 2 embodiment).

Claim 1. Satou discloses (fig.2) a splined component (10) for transmitting torque comprising: a main body (31) of formable metal (metal denoted by crosshatching) and having a longitudinal axis (central axis of symmetry of 31); a plurality of spaced apart splines (33) of formable metal being generally parallel to the longitudinal axis of and extending from said body and being projections on said body that cooperate with slots (slots in 15 cooperatively receiving 33) on a corresponding shaft (15) enabling cooperative rotation; and a plurality of small raised portions (34) of said formable metal extending away from said main body and being generally parallel to the axis of said body, at least one of said raised portions adapted to contact the surface of a corresponding body (body portion of 15 contacting 34), said splines, raised portions, and body (main body 31, see 112 rejection above) are integral and homogenous.

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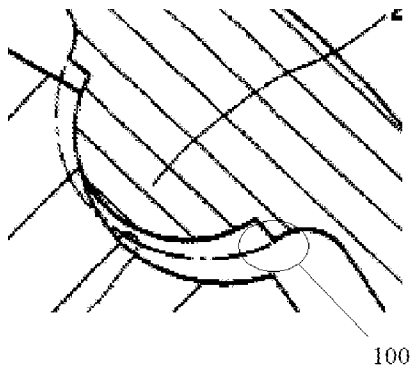
Claim 2. Satou discloses the component defined in claim 1 wherein said main body is hollow.

Claim 3. Satou discloses the component defined in claim 2 wherein said splines extend inwardly.

Claim 4. Satou discloses the component defined in claim 3 wherein said raised portions are uninterrupted (in that no other element extends there through).

Claim 17. Satou discloses the component defined in claim 4 wherein said raised portions are disposed between said spaced apart splines.

Claims 1-4 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Satou USPN 6405835 (prior art figure 13 embodiment as marked-up below).



Claim 1. Satou discloses (fig.13 prior art embodiment) a splined component (22) for transmitting torque comprising: a main body (24) of formable metal (metal denoted by crosshatching) and having a longitudinal axis (central axis of symmetry of 24); a plurality of spaced apart splines (25) of formable metal being generally parallel to the longitudinal axis of and extending from said body and being projections on said body that cooperate with slots (17) on a corresponding shaft (15) enabling cooperative rotation; and a plurality of small raised

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portions (100, see marked-up figure above) of said formable metal extending away from said main body and being generally parallel to the axis of said body, at least one of said raised portions adapted to contact the surface of a corresponding body (body portion of 15 contacting 100 during wear described in column 4, ll.3-10), said splines, raised portions, and body (main body 24, see 112 rejection above) are integral and homogenous.

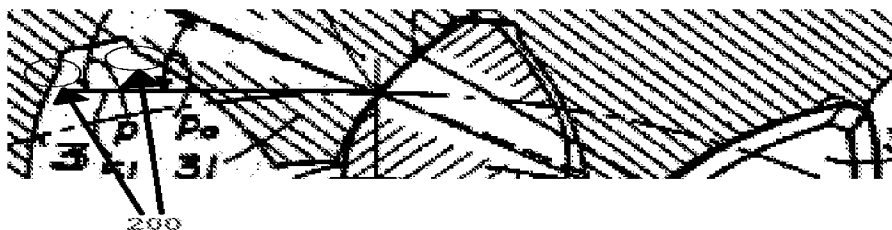
Claim 2. Satou discloses the component defined in claim 1 wherein said main body is hollow.

Claim 3. Satou discloses the component defined in claim 2 wherein said splines extend inwardly.

Claim 4. Satou discloses the component defined in claim 3 wherein said raised portions are uninterrupted (in that no other element extends there through).

Claim 18. Satou discloses the component defined in claim 4 wherein said raised portions (100) are disposed on the surface of said spaced apart splines (in that they are worn therein, col.4, ll.3-10).

Claims 1-4 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Wildhaber USPN 3224223 (see marked-up figure 2 below).



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Claim 1. Wildhaber discloses (fig.2) a splined component (30) for transmitting torque comprising: a main body (30) of formable metal (metal denoted by crosshatching) and having a longitudinal axis (central axis of symmetry of 30); a plurality of spaced apart splines (31) of formable metal being generally parallel to the longitudinal axis of and extending from said body and being projections on said body that cooperate with slots (slots in 32 cooperatively receiving 31) on a corresponding shaft (32) enabling cooperative rotation; and a plurality of small raised portions (200) of said formable metal extending away from said main body and being generally parallel to the axis of said body, at least one of said raised portions adapted to contact the surface of a corresponding body (body portion of 33 contacting 200), said splines, raised portions, and body (main body 30, see 112 rejection above) are integral and homogenous.

Claim 2. Wildhaber discloses the component defined in claim 1 wherein said main body is hollow.

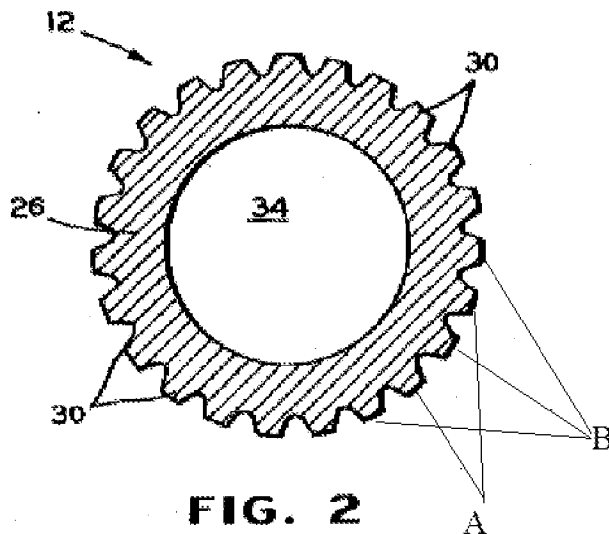
Claim 3. Wildhaber discloses the component defined in claim 2 wherein said splines extend inwardly.

Claim 4. Wildhaber discloses the component defined in claim 3 wherein said raised portions are uninterrupted (in that no other element extends there through).

Claim 18. Wildhaber discloses the component defined in claim 4 wherein said raised portions (200) are disposed on the surface of said spaced apart splines.

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Claims 1, 2, 4, 7 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Mangas USPN 5716276 (see marked-up figure below).



Claim 1. Mangas discloses (fig.2) a splined component (12) for transmitting torque comprising: a main body (26) of formable metal (metal denoted by crosshatching) and having a longitudinal axis (central axis of symmetry of 26); a plurality of spaced apart splines (B) of formable metal being generally parallel to the longitudinal axis of and extending from said body and being projections on said body that cooperate with slots (slots between 112) on a corresponding shaft (110) enabling cooperative rotation; and a plurality of small (A is small relative to 26, see 35 U.S.C. 112 2nd paragraph rejection above) raised portions (A) of said formable metal extending away from said main body and being generally parallel to the axis of said body, at least one of said raised portions adapted to contact the surface (surface of 112 receiving B) of a corresponding body (body portion of 112 contacting B), said splines, raised portions, and body (main body 26, see 35 U.S.C. 112 2nd paragraph rejection above) are integral and homogenous.

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Claim 2. Mangas discloses the component defined in claim 1 wherein said main body is hollow.

Claim 4. Mangas discloses the component defined in claim 3 wherein said raised portions are uninterrupted.

Claim 7. Mangas discloses the component defined in claim 1 wherein the formable metal of said body, said splines, and said raised portions is an aluminum alloy (col.4, ll.1-12).

Claim 17. Mangas discloses the component defined in claim 4 wherein said raised portions are disposed between said spaced apart splines.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wildhaber USPN 3224223 in view of Mangas USPN 5716276.

Claim 7. Wildhaber does not expressly state that the formable metal is an aluminum alloy. Mangas teaches (col.4, ll.1-12) that splined components should preferably be made of aluminum or aluminum alloys for the purpose of reducing weight. Furthermore, because aluminum alloys (e.g., such as aluminum alloyed with titanium) are inherently stronger than pure aluminum, one of ordinary skill would have chosen an aluminum alloy rather than pure aluminum. Therefore, it would have been obvious to one with ordinary skill in the art at the time

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the invention was made to modify the Wildhaber formable metal to be an aluminum alloy, as illustrated by Mangas, for the purpose of decreasing weight while minimizing any loss in strength. Lastly note the following:

- It has generally been recognized that selection of a known material based upon its suitability for the intended use is a design consideration within the skill of the art. In re Leshin, 227 F.2d 197, 125 USPQ 416 (CCPA 1960).
- Furthermore, the applicant has failed to demonstrate criticality by any showing of unexpected result derived from aluminum alloy over any other metal. Wherein a specific limitation has no criticality, case law can be relied upon as rationale in an obviousness rejection. See MPEP 2144.04.
- Combining old art to produce results that would have been expected from what was known about the art separately (e.g., aluminum alloy is light and strong) is at best an ordinary innovation and at worst no innovation at all. “[T]he results of ordinary innovation are not the subject of exclusive rights under the patent laws. Were it otherwise patents might stifle, rather than promote, the progress of useful arts. See U.S. Const., Art. I, section 8, cl.8.” In re KSR International Co. v. Teleflex Inc., 82 USPQ2d 1385 (U.S. 2007).
- Accordingly, inventions are **NOT** patentable for trivial details that lack criticality (unexpected results) since such random alterations would be expected in the ordinary progress of technology. “It was never the object of those laws to grant a monopoly for every trifling device, every shadow of a shade of an idea, which would naturally and spontaneously occur to any skilled mechanic or operator in the ordinary progress

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of manufacturers. Such an indiscriminate creation of exclusive privileges tends rather to obstruct than to stimulate invention. It creates a class of speculative schemers who make it their business to watch the advancing wave of improvement, and gather its foam in the form of patented monopolies, which enable them to lay a heavy tax upon the industry of the country, without contributing anything to the real advancement of the arts. It embarrasses the honest pursuit of business with fears and apprehensions of concealed liens and unknown liabilities to lawsuits and vexatious accountings for profits made in good faith.” *Atlantic Works v. Brady*, 107 U.S. 192, 200 (1882); *A. & P. Tea Co. v. Supermarket Equipment Corp.*, 340 U.S. 147 (1950).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor MacArthur whose telephone number is (571) 272-7085. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on (571) 272-7087. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197.

July 27, 2009

/Victor MacArthur/
Primary Examiner, Art Unit 3679

/Frederick R. Schmidt/
Director, Technology Center 3600